

Default or Recommended compiler version and options

Category: Porting to Columbia

DRAFT

This article is being reviewed for completeness and technical accuracy.

Intel compiler versions 10.0, 10.1, 11.0 and 11.1 are available on Columbia as modules. Use the 'module avail' command to find available versions.

The current default compiler module on Columbia is *intel-comp.10.1.013*.

In addition to the few flags mentioned in the article Recommended Intel Compiler Debugging Options, here are a few more to keep in mind:

Turn on optimization: *-O3*

If you do not specify an optimization level (*-On*, $n=0,1,2,3$), the default is *-O2*. If you want more aggressive optimizations, you can use *-O3*. Note that using *-O3* may not improve performance for some programs.

Turn inlining on: *-ip* or *-ipo*

Use of *-ip* enables additional interprocedural optimizations for single file compilation. One of these optimizations enables the compiler to perform inline function expansion for calls to functions defined within the current source file.

Use of *-ipo* enables multifile interprocedural (IP) optimizations (between files). When you specify this option, the compiler performs inline function expansion for calls to functions defined in separate files.

Parallelize your code: *-openmp* or *-parallel*

-openmp handles OMP directives and *-parallel* looks for loops to parallelize.

For more compiler/linker options, read **man ifort**, **man icc**, or

```
%ifort -help  
%icc -help
```

Article ID: 106

Last updated: 20 May, 2011

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<http://www.nas.nasa.gov/hecc/support/kb/entry/106/?ajax=1>